CLAIMS

What is claimed is:

1.   In a computer system having a display device, the display device having a plurality of pixels each having a plurality of separately controllable pixel sub-components of different colors, a method of displaying an image on the display device in a manner that is adjusted based on preferences of a viewer, comprising:

        displaying on the display device a set of example images, each example image being generated using display parameters that result in different degrees of color errors;

        receiving input from the viewer selecting one of the set of example images as being preferred; and

        displaying an image on the display device using the display parameters used to generate the selected example image, including:

            obtaining luminous intensity values for individual pixel sub-components of a pixel of the display device by mapping different sets of one or more samples of image data representing the image to the individual pixel sub-components, the luminous intensity values being obtained as a function of the display parameters; and

            displaying the image on the display device by controlling the individual pixel sub-components using the luminous intensity values.

2.   The method of claim 1, wherein the display parameters include a gamma value.

3.   The method of claim 1, wherein the input from the viewer is indicative of the color perception abilities of the viewer.

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4.   The method of claim 1, wherein the input from the viewer is indicative of a preferred tradeoff between color accuracy and resolution.

5.   The method of claim 1, further comprising storing the display parameters used to generate the selected example image in a profile associated with the viewer, the profile being used to enable the computer system to display the image on the display device using the display parameters.

6.   The method of claim 1, further comprising storing the display parameters used to generate the selected example image in a profile associated with the display device, the profile being used to enable the computer system to display the image on the display device using the display parameters regardless of the identity of the viewer who views the displayed image.

7.   The method of claim 1, wherein the samples that are included in the different sets of one or more samples are selected based on the display parameters.

8.   The method of claim 7, wherein obtaining luminous intensity values comprises sampling the image data using a displaced sampling operation to obtain the different sets of one or more samples.

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9. The method of claim 1, wherein obtaining luminous intensity values comprises applying a scan conversion filter to the sets of one or more samples, the scan conversion filter having coefficients selected based on the display parameters.

10. The method of claim 1, wherein obtaining luminous intensity values is performed such that the individual pixel sub-components correspond to spatially different portions of the image as opposed to an entire pixel corresponding to a single portion of the image.

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11. In a computer system having a display device, the display device having a plurality of pixels each having a plurality of separately controllable pixel sub-components of different colors, a method of displaying an image on the display device in a manner that is adjusted based on preferences of a viewer, comprising:

displaying on the display device a set of example images, each example image being generated using a gamma value that result in different degrees of color errors;

receiving input from the viewer selecting one of the set of example images as being preferred;

displaying an image on the display device using the gamma value used to generate the selected example image, including:

mapping different sets of one or more samples of image data representing the image to individual pixel sub-components of a pixel of the display device to obtain luminous intensity values for the individual pixel sub-components;

performing a gamma correction operation on the luminous intensity values using the gamma value used to generate the selected example image; and

displaying the image on the display device by controlling the individual pixel sub-components using the luminous intensity values.

12. The method of claim 11, further comprising storing the gamma value used to generate the selected example image in a profile associated with the viewer.

13. The method of claim 12, wherein:

the method further comprises receiving viewer input specifying a preferred viewing position; and

displaying the image further comprises performing a viewing angle correction operation that is a function of the viewer input specifying a preferred viewing position.

14.   The method of claim 11, further comprising storing the gamma value used to generate the selected example image in a profile associated with the display device.

15.   The method of claim 11, wherein the viewer input is indicative of the color perception abilities of the viewer.

16.   The method of claim 11, wherein mapping different sets of one or more samples comprises sampling the image data using a displaced sampling operation to obtain the different sets of one or more samples.

17.   The method of claim 11, wherein mapping different sets of one or more samples is performed such that the individual pixel sub-components correspond to spatially different portions of the image as opposed to an entire pixel corresponding to a single portion of the image.

18. A computer program product for implementing, in a computer system having a display device, the display device having a plurality of pixels each having a plurality of separately controllable pixel sub-components of different colors, a method of displaying an image on the display device in a manner that is adjusted based on preferences of a viewer, the computer program product comprising:

a computer readable medium carrying computer-executable instructions for implementing the method, the computer-executable instructions, when executed, causing the computer system to:

display on the display device a set of example images, each example image being generated using display parameters that result in different degrees of color errors;

receive input from the viewer selecting one of the set of example images as being preferred; and

store, in a profile at the computer system, the display parameters used to generate the selected example image, the stored display parameters enabling the computer system to display an image on the display device in a manner that is adjusted based on the preferences of the viewer.

19. The computer program product of claim 18, wherein the display parameters include a gamma value.

20. The computer program product of claim 18, wherein the input from the viewer is indicative of the color perception abilities of the viewer.

21. The computer program product of claim 18, wherein the input from the viewer is indicative of a preferred tradeoff between color accuracy and resolution.

22. The computer program product of claim 18, wherein the computer-executable instructions, w hen e xecuted, further c ause t he c omputer s ystem t o d isplay the i mage o n t he display device by controlling the individual pixel sub-components using the luminous intensity values using the display parameters used to generate the selected example image, including:

obtaining luminous intensity values for individual pixel sub-components of a pixel of the display device by mapping different sets of one or more samples of image data representing the image to the individual pixel sub-components, the luminous intensity values being obtained as a function of the display parameters; and

displaying the image on the display device by controlling the individual pixel sub-components using the luminous intensity values.

23. The computer program product of claim 18, wherein the computer-executable instructions, when executed, further cause the computer system to receive viewer input specifying a preferred viewing position.

24. The computer program product of claim 23, wherein the computer-executable instructions, w hen e xecuted, f urther c ause t he c omputer s ystem t o d isplay the i mage o n t he display device by controlling the individual pixel sub-components using the luminous intensity values using the display parameters used to generate the selected example image, the display of the image including performing a viewing angle correction operation that is a function of the viewer input specifying a preferred viewing position.